DIGITAL AUDIO PLATFORMS, LEARNER AUTONOMY, AND ENGLISH ACHIEVEMENT: A CORRELATION STUDY IN INDONESIAN VOCATIONAL EDUCATION

Lina Adiniatul Munawaroh[*1], Titik Lina Widyaningsih[*2]
linadinimuna3@gmail.com [*1], titiklina@gmail.com[*2]
Faculty of Social and Humanities[*1,2]
Universitas Bhinneka PGRI [*1,2]

Received: July 29, 2025 Accepted: December 30, 2025 Published: March 27, 2026

ABSTRACT

This research examines the correlation between the utilization of digital audio platforms, learner autonomy, and English learning outcomes among tenth-grade students in an Indonesian vocational high school. The study employed a quantitative correlational design, with 33 students chosen by purposive sampling. Data were collected through questionnaires on digital audio platform use and learner autonomy, as well as English report card grades representing learning outcomes. The findings revealed significant positive correlations between digital audio platform use and English learning outcomes ($r = 0.701$, $p < 0.05$), and between learner autonomy and English learning outcomes ($r = 0.710$, $p < 0.05$). A multiple correlation analysis also showed a strong combined relationship between both variables and English learning outcomes ($R = 0.783$, $p < 0.05$). This study contributes to the current literature by examining the synergistic effect of digital audio platforms and learner autonomy in a vocational EFL context. We used report card grades to measure how well students learned English. Report cards show how well students did in school over time, as judged by their teachers. The results suggest that integrating digital audio platforms with learner autonomy strategies can enhance the English proficiency of vocational students.

Keywords: *Digital audio application, Learner autonomy, Learning outcomes.*
DOI: 10.31943/wej.v10i1.494

INTRODUCTION

Technology that continues to develop at all times has a significant impact on the world of education in the 21st century. The advent of digital technology has transformed education by introducing innovative technologies and resources that enhance the learning experience. According to Rahmi and Samsudi (2020) highlight that the use of digital tools in education has made educators progressively mindful of the transformative potential of innovation in teaching. This perspective aligns with Taylor (2021) assertion that digital technology significantly improves teaching and learning by providing engaging and interactive environments, which aligns with the claim about enhancing the learning experience through innovative tools. The digital audio application is one of the technologies that is becoming more and more significant in schools, especially for learning languages. This is because it

provides a flexible and dynamic platform that gives students more freedom. Similarly, Aziz and Kheryadi (2024) also found that students have a good view of using digital technology in collaborative EFL learning since it makes it simpler to find material and learn from each other. One of the technologies is the digital audio application, which is becoming more and more significant in schools, especially for learning languages. This is because it provides a flexible and interactive learning space for students, which keeps them engaged and gives them more freedom.

Advancements in digital audio technology have transformed how students interact with language learning, primarily by streamlining access to high-quality native content. According to Mukhtorova (2024) the integration of digital resources ranging from online courses to podcasts grants learners the autonomy to utilize immersive listening materials at their own pace, regardless of their physical setting. This flexibility supports consistent practice and helps create more immersive learning experiences Furthermore, as highlighted by Putri and Zega (2023), point out that Information and Communication Technology (ICT) plays an important role in modern education, as it functions not only as a tool for delivering instructional content but also as a means to support autonomous learning. This view suggests that ICT can be effectively integrated into classroom instruction by teachers. Examples of ICT as audio tools such as Spotify, YouTube Music, JOOX, Apple Music, and Deezer. In this study, the researcher focuses on the Spotify and YouTube Music apps. Focusing on these popular platforms, this research seeks to bridge the existing knowledge gap and provide a comprehensive picture of how digital audio can enhance language learning.

Access to technology that promotes independent learning enhances learners' capacity to evaluate and modify their learning plans, underscoring the significance of technological tools in fostering autonomous learning (Ngath & Eong, 2024). Students can independently research topics that interest them, enriching their learning experience outside the classroom. This aligns with the findings of Haryadi et al. (2023), using technology in a purposeful way within English learning activities may help students become more independent learners, gain wider exposure to knowledge, and better adapt to the challenges of today's global environment. According to Melvina et al. (2021), teachers who believe in the benefits of technology tend to implement more activities that encourage student autonomy. Technology not only motivates students but also provides access to a variety of learning resources, which is crucial for fostering autonomy.

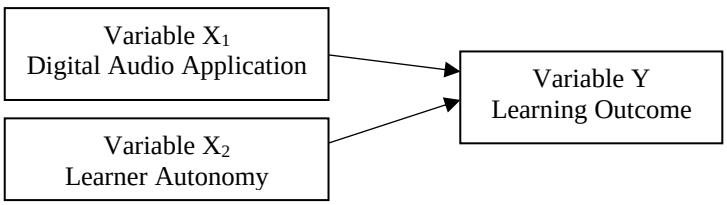
The idea that students are able to take responsibility for their own learning has gradually shifted the traditional focus from teacher-led instruction. Through learner autonomy, students are encouraged to set their own learning goals, choose suitable learning strategies, and reflect on their progress. Little (2022) has elaborated on this concept, highlighting the dynamic characteristics of autonomous learning, in which learners actively organise, execute, monitor, and assess their learning processes. Students' autonomy can be understood through several dimensions, such as strategy, behavior, and cognition (Tsai, 2019), self-management (Papi & Hiver, 2020), independence, and interdependence (Sanprasert, 2010).

Learning outcomes are the results obtained by an individual during a time of inquiry, education, and assessment in an academic setting. According to Biggs and Tang (2011), According to Biggs and Tang (2011), define learning outcomes as the specific synthesis of knowledge, skills, and attitudes that students are expected to master upon completing a curriculum. These competencies—ranging from critical thinking and problem-solving to collaboration and communication—are designed to foster holistic development, ensuring learners can transpose theoretical knowledge into practical applications. Furthermore, Meisa (2024) asserts that when students are given the agency to select their own audio materials, it cultivates a sense of ownership and autonomy. This psychological shift ultimately acts as a catalyst for more robust learning outcomes.

Although research on digital technology in English language learning has grown rapidly, many studies still examine digital tools and learner autonomy as separate factors influencing learning outcomes. Most of this research has been carried out in general education or higher education settings, while vocational high schools receive far less attention. In fact, students in vocational schools often have different learning needs and levels of independence compared to those in academic tracks. In addition, digital audio platforms such as Spotify and YouTube Music are widely used by students for informal learning, yet their connection with learner autonomy and English learning outcomes has not been sufficiently explored, particularly in vocational EFL contexts. As a result, there is still limited understanding of how learner autonomy, as part of self-regulated learning, interacts with the use of popular digital audio platforms in shaping students' English achievement. Therefore, this study seeks to investigate the combined relationship between digital audio application use, learner autonomy, and English learning outcomes among vocational high school students.

Based on this research gap, the study proposes a conceptual framework that explains how digital audio platform use, learner autonomy, and English learning outcomes are related. Digital audio platforms are viewed as learning tools that increase students' exposure to English, while learner autonomy reflects their ability to plan, monitor, and control their own learning process. Both factors are assumed to be linked to students' English learning outcomes. This framework emphasizes the correlational nature of these relationships within a vocational EFL setting and serves as a guide for formulating the research questions and conducting data analysis. The conceptual framework can be seen in the figure below:

Figure 1. Conceptual Framework



Based on this conceptual framework, the following research questions are formulated:

1. Is there any correlation between the digital audio application use and the English learning outcomes of the tenth-grade students?
2. Is there any correlation between autonomy and the English learning outcomes of the tenth-grade students?
3. Is there any correlation between the use of digital audio applications, autonomy, and the English learning outcomes of the tenth-grade students?

Digital Audio Application

Digital audio applications are category of Information and Communication Technology (ICT) that allows learners access to diverse audio-based learning resources, including music and podcasts. According to Silvia and Santosa (2023), digital audio applications serve as interactive media that facilitate vocabulary enhancement and pronunciation improvement in EFL contexts. Numerous studies consistently indicate that digital audio platforms enhance language acquisition by providing authentic input and flexible access to educational resources (Hamsia & Roifah, 2023)

In the fields of English language acquisition, apps such as Spotify and YouTube Music have shown positive contributions towards improving students' language skills. Research by Hamsia and Roifah (2023) reported that students showed high levels of engagement when Spotify was used in listening activities, largely because the platform offers a wide selection of English songs and podcasts. Similarly Wahyuni et al. (2024) they noted that YouTube Music helped students improve their pronunciation when songs were used as part of the learning activities. Even so, many recent studies still look at each platform on its own and mainly focus on individual language skills, such as listening or pronunciation, instead of examining learning outcomes more broadly. This shows that even though digital audio platforms are often seen as useful learning tools, there is still limited discussion about how they relate to students' overall English proficiency, particularly in formal vocational school settings.

Learner Autonomy

Learning autonomy refers to the ability of students to manage their own learning process, in terms of planning, implementation, and evaluation. This concept has become a major concern in foreign language learning because it can increase students' motivation and learning outcomes. According to Little (2022), asserts that learner autonomy entails proactive involvement in the organization and monitoring of learning activities. Academics have elaborated on learner autonomy by defining characteristics including strategy, behavior, cognition, independence, self-management, and interdependence (Papi & Hiver, 2020; Sanprasert, 2010; Tsai, 2019).

Previous study has established that learner autonomy is essential for enhancing language learning outcomes, as independent learners generally exhibit greater motivation, strategic thinking, and reflective practices in their learning (Fernanda & Munir, 2023; Pratiwi & Waluyo, 2023). Furthermore, Melvina et al. (2021) argued that teachers who use technology in their lessons are more likely to encourage students to learn independently. However, learning autonomy is generally considered a personal psychological trait, and less attention has been paid to how digital learning technologies actively foster the development of autonomy

in specific educational contexts. While much research examines individual student characteristics, little has examined how digital learning tools can help individuals become more independent. Nevertheless, most agree that learning autonomy is a crucial component of language learning.

Learning Outcomes

Learning outcomes are more than just targets; they show how much a student has actually grown and what skills they've mastered after a lesson (Biggs & Tang, 2011; Kibtiyah et al., 2024). When it comes to learning a new language, these outcomes aren't just about test scores. They also cover how well students can actually communicate, think critically, and use the language in real-world situations (Wiguna et al., 2020). In vocational education, learning outcomes are deemed effective when students' final grades correspond with institutional evaluation standards, indicating their mastery of essential knowledge and skills necessary for academic and practical applications (Zainar et al., 2021). This study measures English learning outcomes through report card grades derived from teacher portfolios, which act as formal indicators of student achievement in school-based assessments.

To better organize and assess learning outcomes, this study adopts Bloom's Taxonomy as a guide for examining students' cognitive achievement. This study uses the revised version of Bloom's Taxonomy as its main framework. The updated model, introduced in 2001, helps explain how students develop different levels of thinking through learning activities. By using this framework, learning outcomes can be viewed in a more structured and understandable way. There are six levels: Remembering, Understanding, Applying, Analyzing, Evaluating, and Creating. However, this study focuses on the first three levels there are Remembering, Understanding, and Applying, as they are considered most relevant to the English language skills being observed.

This study only assesses English learning outcomes at Bloom's Taxonomy's first three cognitive levels—remembering, understanding, and applying. This limitation stems from vocational high school English instruction, which emphasizes basic language abilities and functional language use for academic and practical purposes. Learning outcomes are measured using report card grades, which focus on basic understanding and application of learning material rather than higher-order cognitive abilities. Since this study is correlational, these three levels are appropriate for measuring learning outcomes. This study excludes higher-order cognitive levels, like analyzing, evaluating, and creating, which are recognized as limitations to be addressed in future research.

RESEARCH METHOD

This study employed a quantitative correlational design to examine the relationships among the use of digital audio applications, learner autonomy, and English learning outcomes of tenth-grade students in a private vocational high school. This study used a purposive selection method to choose one class, namely X TSM 3, including 33 students as the research sample. This class was chosen because the students already had experience using digital audio applications such as Spotify and YouTube Music in their English learning activities. This background

qualified them for the objective of the study. For this reason, purposive sampling was chosen so that all participants matched the criteria required for the variables examined in this study.

Data were obtained from two main sources, namely structured questionnaires and students' English report card scores. The questionnaire on digital audio applications included 20 items that explored how students used Spotify and YouTube Music in learning English. These items covered how often the applications were used, the learning purposes behind their use, the features students relied on, and how the applications were perceived to support English learning. In particular, the questionnaire addressed activities such as listening to English songs and podcasts, using lyric features, developing interest in learning, and students' views on improvements in their English skills. Learner autonomy was assessed through a separate questionnaire consisting of 30 items representing six key aspects: learning strategy, behavior, cognition, independence, self-management, and interdependence. These aspects reflect how students plan and control their learning activities, monitor their progress, take responsibility for their learning, and interact with others during the English learning process.

Learning outcomes were obtained from two sources of data. First, a learning outcomes questionnaire consisting of 20 items was used to capture students' perceptions of improvement in their English abilities, including listening skills, pronunciation, speaking confidence, grammatical understanding, and the use of English in real-life communication supported by digital audio applications. Second, students' English report card scores, taken from the subject teacher's academic records, were used as objective evidence of their achievement. All questionnaire items applied a four-point Likert scale ranging from strongly disagree (1) to strongly agree (4). To ensure clarity and relevance, the questionnaires were reviewed and validated through expert judgment by a specialist in English education.

The instruments' reliability was evaluated by Cronbach's Alpha. The findings showed satisfactory internal consistency, with coefficients of 0.805 for Digital Audio Application, 0.947 for Learner Autonomy, and 0.704 for Learning Outcomes, all beyond the minimum acceptable threshold of 0.60. All data collected in this study were processed using SPSS version 25. Prior to testing the hypotheses, a normality test was carried out through the Kolmogorov–Smirnov procedure to confirm that the data fulfilled the requirements for parametric statistical analysis. To examine the relationship between the use of digital audio applications, learner autonomy, and English learning outcomes, the Pearson Product-Moment correlation technique was employed to determine both the strength and direction of the correlations. Furthermore, a multiple linear regression analysis was conducted to investigate the combined effect of the independent variables on students' academic achievement. For all statistical procedures, the level of significance was determined at 0.05.

FINDINGS AND DISCUSSION

Findings

Descriptive Statistics

Descriptive statistical analysis of English learning outcomes was conducted first to obtain an overview of students' academic performance. The results are shown in the following table:

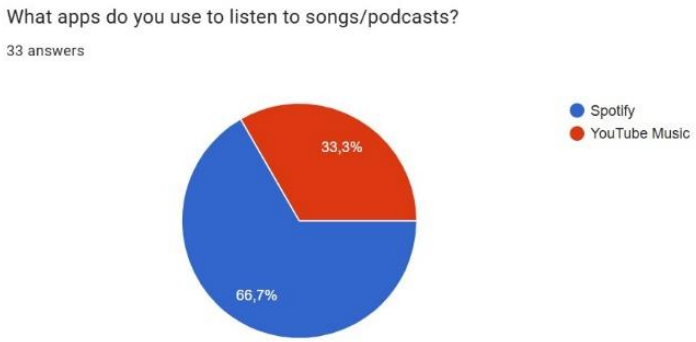
Table 1. Descriptive Statistics

Descriptive Statistics					
	N	**Minimum**	**Maximum**	**Mean**	**Std. Deviation**
Score	33	75.00	88.00	82.9394	4.06924
Valid N (listwise)	33				

Based on Table 1, it can be seen that the number of respondents (N) in this study was 33 students. The minimum score of learning outcomes obtained by students is 75.00, while the maximum score is 88.00. This shows that all respondents have scores in a relatively high range, with a difference between the lowest and highest scores of 13 points. The mean score was 82.94 with a standard deviation of 4.07, this indicates that the distribution of scores is quite consistent and there is no extreme variation among student scores. Overall, these results reflect a generally positive level of English learning outcomes among the participants.

In addition to students' report card grades as indicators of learning outcomes, descriptive data were also collected from a questionnaire regarding students' utilization of digital audio applications in English study. Figure 2 illustrates the spread of application usage. The figure illustrates that both applications are frequently used by students, despite differences in the level of preference between the two platforms.

Figure 2. Students' Preferred Apps



Based on Figure 2, it can be seen that most students prefer Spotify as a media for listening to English songs or podcasts, with a percentage of 66.7%. Meanwhile, 33.3% of other students choose to use YouTube Music. This result indicates that Spotify is used more often than YouTube Music by the participant. These result show that Spotify is used more frequently than YouTube Music among these participants. The figure highlights a clear difference in students' platform preferences for accessing English audio materials.

Correlation Analysis

Pearson's correlation analysis (Product-Moment) was conducted to determine the relationship between two independent variables and English learning

outcomes as the dependent variable. This was done to answer the first and second research questions. The table below shows how the application of digital audio (X_1) and English language learning outcomes (Y) are related to each other. This relationship is considered statistically significant if the significance value (p-value) is below 0.05. Therefore, the relationship is declared statistically significant.

Table 2. Correlation X_1 on Y

Correlations			
		Digital Audio Application (X1)	**Learning Outcomes (Y)**
Digital Audio Application	Pearson Correlation	1	.701
	Sig. (2-tailed)		.000
	N	33	33
Learning Outcomes	Pearson Correlation	.701	1
	Sig. (2-tailed)	.000	
	N	33	33

The results in Table 2 show that the correlation coefficient value is 0.701, with a significance value of 0.000. This means that there is a strong and significant positive relationship between the use of digital audio applications and students' English learning outcomes.

Next, to answer the second question, a correlation test was conducted between X_2 (learner autonomy) and Y (English learning outcomes). This analysis was carried out to investigate the relationship between students' levels of learner autonomy and their outcomes in English learning. The correlation analysis results are shown in the table below, offering statistical evidence which supports the interpretation of the relationship between learner autonomy and English learning outcomes.

Table 3. Correlation X_2 on Y

Correlations			
		Learner Autonomy (X_2)	**Learning Outcomes (Y)**
Learner Autonomy	Pearson Correlation	1	.710
	Sig. (2-tailed)		.000
	N	33	33
Learning Outcomes	Pearson Correlation	.710	1
	Sig. (2-tailed)	.000	
	N	33	33

Table 3 shows that the correlation value between learner autonomy and learning outcomes is 0.710 with a significance value of 0.000 ($P < 0.05$). This finding demonstrates a strong and statistically significant positive relationship between learner autonomy and English learning outcomes.

Multiple Regression Analysis

After confirming that each independent variable shows a significant relationship with English learning outcomes when examined separately, further analysis was conducted to investigate their combined effect. At this stage, the use of digital audio applications (X_1) and learner autonomy (X_2) were analyzed simultaneously to determine how they jointly relate to English learning outcomes (Y). This step is important to see whether the two variables work together within a single regression model rather than as individual predictors. The results of this simultaneous analysis are presented in the following regression model summary, which provides an overview of the overall model performance and the contribution of the independent variables to the dependent variable.

Table 4. Multiple Regression

Model Summary									
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	Df 1	Df 2	Sig. F Change
1	.783[a]	.614	.588	3.596	.614	23.835	2	30	.000

Based on the table, the multiple regression coefficient (R) value is 0.783. This value indicates a strong positive relationship between the independent variables (digital audio application and learner autonomy) and the dependent variable (English learning outcomes). Furthermore, the R Square value of 0.614 shows that the use of digital audio applications and learner autonomy together account for 61.4% on their English learning outcomes. The remaining 38.6% of variance is explained by factors not included in this model. In the Change Statistics section, the F Change value of 23.835 with a significance level of 0.000 (<0.05) indicates that this regression model as a whole is significant.

After the regression model was established as statistically significant, additional analysis was performed to investigate the effect of each independent variable on the dependent variable. This analysis seeks to understand each indicator's individual contribution to the regression model. The regression coefficient analysis is shown in the table below to provide a better understanding of these findings.

Table 4. 1 Coefficients Analysis

Coefficients[a]						
	Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-7.276	5.943		-1.224	.230
	Digital Audio Application	.608	.209	.422	2.912	.007
	Learner Autonomy	.238	.077	.447	3.082	.004

a. Dependent Variable: Learning Outcome

Based on the coefficient table, the t-test results show that the digital audio application variable has a t value of 2.912 with a significance value obtained is

0.007, which is smaller than the 0.05 significance limit. The coefficient table indicates that the digital audio application has a t value of 2.912 and a significance value of 0.007 ($p < 0.05$). Learner autonomy showed a t value of 3.082 and a significance value of 0.004 ($p < 0.05$). The standardized beta coefficients were 0.422 for digital audio applications and 0.447 for learner autonomy.

Discussion

The correlation between digital audio applications and learning outcomes

The correlation analysis indicated a strong beneficial relationship between the utilization of digital audio applications and English learning results ($r = 0.701$, $p < 0.05$). The finding suggests that increased interaction with digital audio applications correlates with improved English learning results among vocational high school students. The strength of this relationship indicates that digital audio applications significantly contribute to student exposure to authentic English input.

This result aligns with previous studies indicating a positive relationship between digital audio applications and language learning outcomes (Alshammary & Alhalafawy, 2023; Silvia & Santosa, 2023). Previous studies indicate that elements like English songs, podcasts, and interactive audio content offer learners ways to enhance various language skills, including listening comprehension, pronunciation, and vocabulary acquisition (Angelia & Simanjuntak, 2023; Wahyuni et al., 2024). This study indicates that platforms like Spotify and YouTube Music facilitate learning by providing students with flexible and recurrent access to English content outside the classroom.

However, the findings must be approached with caution, as this study utilized a correlational methodology and does not confirm a causal connection. The identified correlations may also be influenced by other variables, including students' prior English language proficiency or learning motivation, which may contribute to increased utilization of digital audio applications. Furthermore, teacher participation, including guidance or teaching methods, may also influence the effectiveness of these applications in the learning process.

This research theoretically confirms the theory of technology-assisted language learning, which highlights the importance of student input and participation in improving language learning outcomes. In vocational education settings, where learning focuses on practical language application, digital audio technologies can operate as accessible resources that enhance formal instruction and facilitate students' autonomous engagement with English. This indicates that digital audio technology not only aligns with established language acquisition theories but also expands their application to vocational EFL contexts.

The correlation between learner autonomy and learning outcomes

The results demonstrate a strong positive relationship between learner autonomy and English learning outcomes, indicating that students who can plan, organize, and evaluate their own learning typically achieve better academic performance. For vocational high school students, learner autonomy promotes ongoing engagement and accountability in English learning, which is crucial for developing functional language abilities.

These findings are consistent with previous research showing that autonomous students generally exhibit increased motivation, stronger self-regulation, and greater participation in learning activities, all of which lead to better learning outcomes (Fernanda & Munir, 2023). Similarly, a study by of Wiriani (2021) found that in a learning context, students who exhibit higher levels of learning autonomy tend to be more active and achieve better academic outcomes. This study confirms the significance of learner autonomy in a vocational EFL context, where independent learning skills are particularly important.

However, this relationship should be interpreted with caution. Learner autonomy may interact with several factors, including teacher guidance, students' prior English language proficiency, and learning motivation, which were not analyzed in this study. Students with stronger prior proficiency may exhibit greater autonomy, thus increasing the observed correlation.

These findings support the theory of learner autonomy, demonstrating its importance in the context of vocational education. These findings suggest that English language educators should foster autonomy by providing structured and self-directed learning activities, facilitating direct reflection, and providing opportunities for independent practice to improve student learning outcomes.

The correlation between digital audio applications, learner autonomy, and learning outcomes

The multiple correlation coefficient was 0.783, with a significance value of $p < 0.05$, indicating a strong and statistically significant relationship among digital audio applications, learner autonomy, and English learning outcomes. The multiple regression analysis indicated that digital audio applications and learner autonomy collectively influence students' learning outcomes, shown by an R-squared value of 0.614. This suggests that 61.4% of the variance in English learning outcomes is accounted for by these two variables, with the remaining 38.6% affected by external factors not included in the analysis.

The significant contribution of digital audio applications and learner autonomy is clearly evident. However, the unexplained variance of 38.6% suggests that other factors also influence English learning outcomes. Teacher instructional practices, classroom interactions, students' prior English language proficiency, and learning motivation may influence the effectiveness of digital audio applications and learner autonomy attitudes related to academic achievement. In vocational high school environments, the diverse academic objectives and different language exposure of students may influence the strength of the relationship observed in this study.

Theoretically, the findings corroborate and expand on previous research demonstrating that digital technology optimally improves learning outcomes when paired with learner autonomy (Andina et al., 2020). Digital audio applications offer genuine input and adaptable learning opportunities yet, previous research underscores that technology alone does not ensure enhanced performance (Melvina et al., 2021). This study indicates that learner autonomy serves as a crucial mechanism allowing students to manage their interaction with digital audio resources, thereby converting technical access into significant learning results. This

supports Little (2022) perspective of learner autonomy as a dynamic process influenced by learners' engagement with educational contexts.

These findings pedagogically correspond with previous research indicating that structured assistance is essential for optimizing the advantages of digital learning tools (Pratiwi & Waluyo, 2023). In vocational EFL courses, educators are urged to incorporate digital audio platforms like Spotify and YouTube Music, while simultaneously facilitating the autonomy of students through goal establishment, reflective listening exercises, and self-assessment assignments. Integrating digital audio apps with pedagogical support that promotes learner autonomy enhances student engagement and leads to better English learning results.

The use of student grades on school report cards as indicators of learning outcomes provides a meaningful institutional perspective on academic progress in this study. The students' average English score of 82.94, categorized as good based on the school's assessment criteria, reflects their learning outcomes over the entire semester. The grades listed on the report card are compiled from various forms of ongoing assessment, such as class engagement, assignment completion, and teacher assessments. Therefore, these grades reflect students' commitment to learning and the consistency of their academic behavior. The report card results also indicate that students who effectively utilize digital audio applications and exhibit a higher level of learning independence tend to achieve more stable and satisfactory academic performance. These characteristics serve as contextual evidence that confirms the relationships identified in the statistical analysis, suggesting that technology-supported learning, combined with learning autonomy, correlates with beneficial learning outcomes in the school environment.

CONCLUSION AND SUGGESTION

Based on the results of research conducted at SMK Sore Tulungagung, it can be concluded that there is a strong correlation between the use of digital audio applications, learner autonomy, and learning outcomes. This study indicates that the use of technology, especially digital audio applications such as Spotify and YouTube Music, has a positive correlation with learning outcomes in English language acquisition. Digital audio applications serve as essential components in fostering a more engaging and adaptable learning environment.

These findings highlight the importance of learner autonomy in promoting optimal learning outcomes. Students that have a high level of autonomy in their study tend to be more disciplined, organized, and motivated to achieve their educational goals. They take more initiative in selecting educational materials, setting personal goals, and measuring their learning progress. This autonomy influences cognitive processes and enhances students' self-confidence and academic preparedness.

Despite these findings, certain constraints need to be considered Because this study relied on a correlational design, the associations observed among digital audio applications, learner autonomy, and learning outcomes should not be understood as evidence of a cause-and-effect relationship. Moreover, the sample involved only one vocational high school class, which may reduce the applicability of the results to other educational contexts. Several influential variables, such as

classroom teaching approaches, students' existing English ability, and their motivation to learn, were not examined in this study.

Based on these limitations, several recommendations can be proposed. English teachers are advised to integrate digital audio applications into structured classroom practices that encourage independent learning, for example, through guided listening tasks and reflective activities. Schools and curriculum planners may also consider embedding digital audio–based activities within vocational English curriculum. Policymakers should also provide infrastructure and teacher training for technology-supported language instruction. Future research should use experimental or longitudinal designs with larger participant samples to better understand the causal links between digital audio applications, learner autonomy, and learning outcomes. Students' cognitive processes, self-confidence, and academic readiness improve with autonomy.

REFERENCES

Alshammary, F. M., & Alhalafawy, W. S. (2023). Digital platforms and the improvement of learning outcomes: Evidence extracted from meta-analysis. *Sustainability*, *15*(2), 1–21. https://doi.org/10.3390/su15021305

Andina, D. M., Cahyono, B. Y., & Widiati, U. (2020). How English foreign language students' autonomy and digital competence relate to their writing achievement. *Tadris: Jurnal Keguruan Dan Ilmu Tarbiyah*, *5*(1), 77–86. https://doi.org/10.24042/tadris.v5i1.5760

Angelia, I., & Simanjuntak, D. C. (2023). The use of digital audio in enhancing EFL learners' listening proficiency. *JETAL: Journal of English Teaching & Applied Linguistic*, *4*(2), 64–74. https://doi.org/10.36655/jetal.v4i2.1118

Aziz, A. N. I., & Kheryadi, K. (2024). Digital literacy with EFL students: Discovering Banten's students' perception about integrating digital technologies in collaborative learning. *Wiralodra English Journal*, *8*(1), 40–53. https://doi.org/10.31943/wej.v8i1.264

Biggs, J., & Tang, C. (2011). Teaching for quality learning at university. In *SRHE and Open University Press*.

Fernanda, V. E., & Munir, A. (2023). The correlation between learner autonomy and English competence of 8th graders at a state junior high school in Surabaya. *Journal of English Development*, *3*(02), 100–114. https://doi.org/10.25217/jed.v3i01.3709

Hamsia, W., & Roifah, R. (2023). Using interactive media of Spotify in listening comprehension for students in intensive English course of language center in Universitas Muhammadiyah Surabaya. *JEELL (Journal of English Education, Linguistics and Literature) English Department of STKIP PGRI Jombang*, *9*(2), 1–11. https://doi.org/10.32682/jeell.v9i2.2865

Haryadi, R. N., Utarinda, D., Poetri, M. S., & Sunarsi, D. (2023). Peran teknologi informasi dalam meningkatkan pembelajaran bahasa inggris. *Jurnal Informatika Utama*, *1*(1), 28–35. https://doi.org/10.55903/jitu.v1i1.76

Kibtiyah, M., Masitoh, S., & Karwanto. (2024). Implementation of learning leadership, school principal supervisor, and teacher performance on

students' learning outcomes. *Journal of Higher Education Theory and Practice*, *24*(1), 249–265. https://doi.org/10.33423/jhetp.v24i1.6773

Little, D. (2022). Language learner autonomy: Rethinking language teaching. *Language Teaching*, *55*(1), 64–73. https://doi.org/10.1017/S0261444820000488

Meisa, R. (2024). Integrating Spotify in teaching English listening skills: exploring the benefits and challenges. *Journal of English as a Foreign Language Education (JEFLE)*, *4*(2), 126–135. https://doi.org/10.26418/jefle.v4i2.74900

Melvina, Lengkanawati, N. S., & Wirza, Y. (2021). The use of technology to promote learner autonomy in teaching English. *Atlantis Press*, *546*, 315–321. https://doi.org/10.2991/assehr.k.210427.048

Mukhtorova, M. (2024). How to improve listening skills of both ESL and EFL students. *Scientific Journal*, *11*(26), 8–10. https://doi.org/10.54613/ku.v11i11.964

Ngath, S., & Eong, D. (2024). Exploring factors influencing Learner autonomy : An empirical study of high school students in Cambodia. *International Journal of Research Publication and Reviews*, *5*(9), 1372–1394.

Papi, M., & Hiver, P. (2020). Language learning motivation as a complex dynamic system: A global perspective of truth, control, and value. *Modern Language Journal*, *104*(1), 209–232. https://doi.org/10.1111/modl.12624

Pratiwi, D. I., & Waluyo, B. (2023). Autonomous learning and the use of digital technologies in online English classrooms in higher education. *Contemporary Educational Technology*, *15*(2), 1–16. https://doi.org/10.30935/cedtech/13094

Putri, F. S., & Zega, D. (2023). Implementation of information and communication technology in management learning system during the Covid 19 pandemic. *International Transactions on Education Technology (ITEE)*, *1*(2), 151–156. https://doi.org/10.33050/itee.v1i2.330

Rahmi, M. N., & Samsudi, M. A. (2020). Pemanfaatan media pembelajaran berbasis teknologi sesuai dengan karakteristik gaya belajar. *Edumaspul: Jurnal Pendidikan*, *4*(2), 355–363. https://doi.org/10.33487/edumaspul.v4i2.439

Sanprasert, N. (2010). The application of a course management system to enhance autonomy in learning English as a foreign language. *System*, *38*(1), 109–123. https://doi.org/10.1016/j.system.2009.12.010

Silvia, S., & Santosa, M. H. (2023). Digital audio applications on students' abilities in EFL: A systematic literature review. *Education of English as A Foreign Language*, *6*(2), 115–129. https://doi.org/10.21776/ub.educafl.2023.006.02.02

Taylor, M., Fudge, A., Mirriahi, N. and, & Laat, M. de. (2021). Use of digital technology in education. In *The Centre for Change and Complexity in Learning*.

Tsai, Y. R. (2019). Promotion of learner autonomy within the framework of a flipped EFL instructional model: perception and perspectives. *Computer Assisted Language Learning*, *34*(7), 979–1011.

https://doi.org/10.1080/09588221.2019.1650779

Wahyuni, H. F., Firdaus, M., & Yukamana, H. (2024). Improving the students ' pronunciation mastery by using pop songs on the Youtube Music application. *(JED) Journal of English Development*, *4*(2), 425–435. https://doi.org/10.25217/jed.v3i01.4409

Wiguna, H. S., Muchtar, H., & Situmorang, R. (2020). The influence of learning media and learning styles on students' cognitive learning outcomes in basic faal science math In STKIP Muhammadiyah Kuningan. *International Journal of Education, Information Technology and Others (IJEIT)*, *3*(3), 528–541. https://doi.org/10.5281/zenodo.4314065

Wiriani, W. T. (2021). Pengaruh kemandirian belajar terhadap hasil belajar siswa pada pembelajaran online. *Jurnal Ilmiah Matematika Realistik*, *2*(1), 57–63. https://doi.org/10.33365/ji-mr.v2i1.436

Zainar, Z., Fitria, H., & Eddy, S. (2021). The relationship between learning strategies and learning interest against student learning outcomes at state elemetary. *JPGI (Jurnal Penelitian Guru Indonesia)*, *5*(1), 2358–2362. https://doi.org/10.29210/021025jpgi0005